"HotSeat" Warning Simulator
Product Description Document (PDD)

Part I – Mission Connection

a. **Product Description** – HotSeat is a web-based warning simulation tool. It uses archived WSR-88D data from actual events along with severe weather reports and damage survey photographs in a displaced real-time (DRT) mode to approximate the feel of issuing severe weather warnings in the National Weather Service. Upon completion of each event, the participant receives a score indicating his/her success in the simulation.

b. **Purpose** - HotSeat is designed as an education and outreach tool for all ages, but with special emphasis on students in grades 4 through college. The simulations are intended to give participants an appreciation of the meteorology of severe weather events and the decision-making process that goes into NWS warnings. In doing so, HotSeat will make its participants better users of NWS warnings. Application of the tool in classroom settings can complement teachers' weather units in science and will help inspire future scientists and meteorologists. HotSeat can also be employed to train emergency managers and other key decision-making officials.

c. **Audience** - The primary audience for this product includes the general public, students (grades 4 and above), emergency management officials, other key decision-making officials.

d. **Presentation Format** - Archived data from the WSR-88D are displayed in a DRT mode. Reports of severe weather (tornadoes, hail, wind, etc.) are overlaid on the radar imagery where and when the phenomenon occurred as the simulation proceeds. Each simulation runs approximately 20 minutes and new simulations will be created and added over time. Any NWS employee or collaborator can add scenarios by working with the Peachtree City WFO. Data and software for the simulations reside on the Regional Web Server where they are made available for use via the local office's web page.

e. Feedback Method - The presentation web page contains a interactive link whereby users can provide comments and suggestions.

Part II – Technical Description

a. **Format and Science Basis** – Using Java (version 1.5 or higher), HotSeat displays archived WSR-88D imagery from an actual severe weather event along with local storm report (LSR) data in a DRT mode. Each scenario is between 4 and 10 Mbytes in size, which the participant downloads once and then displays using Java on their local computer. After the initial download, no additional bandwidth is required.

Prior to the simulated event, a brief tutorial is presented along with a description of general weather (synoptic, mesoscale and forecast) conditions. When the simulation is started, time is compressed for better effectiveness. By dragging iconic boxes to a desired location on the radar screen, the participant "issues" a severe thunderstorm or tornado warning. Points are awarded or deducted to give the participant an idea of how successful their warning activities were. For example, points are awarded for successful warnings and long lead times but deducted for missed events, overwarning, and/or non-cancellation of warnings

that are no longer needed. At the end of each simulation, a final score is given, along with standard NWS severe weather skill scores such as Probability of Detection, False Alarm Rate, Critical Skill Index and average lead time.

b. **Product Availability** - The product is available at all times via the local WFO web page. New scenarios will be posted periodically.

c. **Additional Information** – HotSeat was created by the staff at the Peachtree City (Atlanta) Weather Forecast Office and unveiled at WeatherFest which opened the 2006 Conference of the American Meteorological Society in Atlanta, GA. The extraordinary response this educational tool generated at WeatherFest prompted making it available to students and teachers via the NWS web site.